Claims

What is claimed is:

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1. A system for deriving benefit from auxiliary data in video signals by use of a hand-held device responsive to the auxiliary data, said system carrying out the steps of:

modulating video signals to carry auxiliary data at a user's location;

providing the user with such a hand-held device capable of receiving the video signals;

receiving the video signals on a decoding device;

causing a decoding device to electronically determine whether the video signals contains the auxiliary data;

transferring the auxiliary data from the decoding device to the hand-held device; and

providing a benefit to the user resulting from electronically determining that the video signal contains the auxiliary data.

2. A system as set forth in claim 1, wherein the receiving of the video signals on a decoding device is through hardwiring.

3. A system as set forth in claim 1, wherein the receiving of the video signals on a decoding device is through optics.

4. A system as set forth in claim 1, wherein the decoding device is a sleeve, a cradle, a remote control, or a docking station.

5. A system as set forth in claim 1, wherein the transferring is by means of RF, IR, or

computer interface.

6. In a system for deriving benefit from auxiliary data including means for producing video signals carrying the auxiliary data, a hand-held device comprising:

means for photoresponsively receiving video signals,

means for electronically determining whether the auxiliary data is present in the video signals,

means for electronically determining content of the auxiliary data when present, and

means for providing indicia of the auxiliary data where present by which a user of the hand-held device may receive a tangible benefit according to content of the auxiliary data when present.

7. In a system as set forth in claim 6, the hand-held device further comprising means for storing the auxiliary data and for displaying at least a part of the data as said indicia.

8. In a system as set forth in claim 6, wherein the auxiliary data is provided at a signal rate which is a function of the normal horizontal retrace frequency of a display of the normal programming content.

9. In a system as set forth in claim 6, wherein the means for electronically determining whether the auxiliary data is present in the video signal comprises a discriminator circuit of the hand-held device responsive to both signals at the normal horizontal retrace frequency and signals at normal horizontal retrace frequency, the discriminator circuit discriminating between such signals according to their relative magnitude.

10. In a system as set forth in claim 6, wherein the means for electronically determining content of the auxiliary data when present comprises a microprocessor of the hand-held device.

11. In a system as set forth in claim 6, wherein the means for receiving auxiliary data comprises a photosensor and circuit means for providing an amplified and conditioned output of the photosensor to the discriminator.

12. In a system as set forth in claim 10, wherein the means for receiving encoded data comprises circuitry to electronically receive the modulated video signals and to output them to the discriminator.

13. In a system as set forth in claim 6, further comprising an FM receiver of the hand-held device for receiving FM transmissions providing the same content as the auxiliary data when auxiliary data cannot be received by the hand-held device.

14. In a system as set forth in claim 13, further comprising means for selectively initiating operation of the FM receiver when auxiliary cannot be received by the hand-held device.

15. In a system as set forth in claim 6, wherein the means for providing indicia of the auxiliary data is present comprises at least one display on the hand-held device.

16. In a system as set forth in claim 6, wherein the hand-held device comprises an instrument of approximately credit-card or wallet size.

17. A system as set forth in claim 15, wherein the display device comprises any number of LEDs.

18. A system as set forth in claim 15, wherein the display comprises an alphanumeric display visible on a surface of the hand-held device.

19. In a system as set forth in claim 6, wherein the means for providing indicia of the auxiliary data is present comprises at least one audio transducer of the hand-held device.

20. In a system as set forth in claim 6, wherein the means for providing indicia of the auxiliary data is an aiming light which turns on to notify user when auxiliary data is being received by the hand-held device.

21. In a system as set forth in claim 6, the hand-held device further comprising an activation control selectively operable by the user to activate the hand-held device for operation.

22. In a system as set forth in claim 6, the hand-held device further comprising a reset control selectively operable by the user to reset the hand-held device for further operation.

23. In a system as set forth in claim 22, wherein the reset control being a button which when depressed multiple times rapidly in a few seconds, causes stored information to be purged from the hand-held device.

24. In a system as set forth in claim 15, a scroll control on the hand-held device selectively operable by the user for causing the display to traverse a circularly linked list of data entries displayable to user, where the data entries include at least in part information received by the hand-held device as auxiliary data.

25. In a system as set forth in claim 6 wherein the hand-held device is configured to simulate the appearance of a small snapshot camera, including a lens or simulated lens suggesting to the user to use the hand-held device like a snapshot camera to take a picture of the means for producing auxiliary data.

26. In a system as set forth in claim 25 further including means selectively operable as if were a shutter release for initiating receiving by the hand-held device of auxiliary data.

27. In a system as set forth in claim 6, the hand-held device further comprising means for storing data that has been preprogrammed or programmed by user input, where the data is useful in connection with receiving the benefit.

28. In a system as set forth in claim 27 wherein the data is demographic information, user information, credit information, or electronic account information.

29. In a system as set forth in claim 6 further comprising means responsive to auxiliary data when present for access to rooms and facilities.

30. A system for deriving benefit from auxiliary data in modulated video signals by use of a hand-held device responsive to the auxiliary data, said system carrying out the steps of:

modulating video signals to carry auxiliary data at a user's location by means of a display device;

providing the user with such a hand-held device capable of receiving the video signals;

receiving the video signals by means of the hand-held device;

causing the hand-held device to electronically determine whether the video signals contains the auxiliary data;

transferring the auxiliary data through a transfer interface to a computer or computer-like device;

providing a benefit to the user resulting from electronically determining that the video signals contains the auxiliary data.

31. A system as set forth in claim 30, wherein the display device is a television set or video monitor.

32. A system as set forth in claim 30, wherein the transfer interface of the hand-held device is selected from the group consisting of PCMCIA, ethernet, token ring, infrared, RF, SCSI, USB, parallel, serial, FireWire, ADB, wireless Internet, and flash memory.

33. A system as set forth in claim 30, wherein the method of modulation is vertical blanking interval (VBI), luminance/chrominance modulation, signal replacement, signal addition, or separate signal.

34. A system as set forth in claim 30, wherein said hand-held device is a smart card.

35. A system for deriving benefit from a video signal modulated with auxiliary data by use of a hand-held device responsive to the auxiliary data, said system carrying out the steps of:

encoding auxiliary data by modulating a video signal;

transmitting the modulated video signal to a display device;

receiving the modulated video signal by means of the hand-held device;

transferring the modulated video signal from the hand-held device to a computer;

detecting the auxiliary data encoded in the modulated video signal,

providing a benefit to the user resulting from the reception of the auxiliary data by the computer.

36. A system as set forth in claim 35, wherein the display device is a television set or video monitor.

37. A system as set forth in claim 35, wherein the transfer interface of the hand-held device is PCMCIA, ethernet, token ring, infrared, RF, SCSI, USB, parallel, serial, FireWire, ADB, wireless Internet, and flash memory.

38. A system as set forth in claim 49, wherein said transmitting the modulated signal is IR, RF, wired from a VCR, wired from a television output jack, or wired from a television output jack to a cradle.

39. A system as set forth in claim 49, wherein said hand-held device is a smart card.

40. In a system for deriving benefit from optically encoded data including means for producing composite video signals carrying auxiliary data, a hand-held device comprising:

means for photoresponsively receiving the composite video signals,

means for electronically determining whether the auxiliary data is present in the composite video signals,

means for electronically determining content of the auxiliary data when present, and

means for providing indicia of the auxiliary data is present by which a user of the hand-held device may receive tangible benefits according to content of the encoded data when present.

41. In a system as set forth in claim 40, the hand-held device further comprising means for transferring at least a part of the auxiliary data to a computer.

42. In a system as set forth in claim 40, the hand-held device further comprising means for transferring at least a part of the composite video signals to a computer.

43. In a system as set forth in claim 40, wherein the auxiliary data provided at a rate which is a function of normal horizontal retrace frequency of a display by which the normal programming content is displayed.

44. In a system as set forth in claim 43, wherein the means for electronically determining whether the auxiliary data is present in the composite video signals comprises a discriminator circuit of the hand-held device responsive to both signals at the normal horizontal retrace frequency and signals at a function of the normal horizontal retrace frequency and discriminating between such signals according to their relative magnitude.

45. In a system as set forth in claim 42, wherein the discriminator circuit is implemented by computer hardware.

46. In a system as set forth in claim 42, wherein the discriminator circuit is implemented by computer software.

47. In a system as set forth in claim 40, wherein the means for receiving auxiliary data comprises a photosensor and circuit means for providing an amplified and conditioned output of the photosensor to the discriminator.

48. In a system as set forth in claim 40, further comprising an FM receiver of the hand-held device for receiving FM transmissions providing the same content as the composite video signals when composite video signals cannot be received by the hand-held device.

49. In a system as set forth in claim 48, further comprising means for selectively initiating operation of the FM receiver when composite video signals cannot be received by the hand-held device.

50. In a system as set forth in claim 40, wherein the means for providing indicia of the auxiliary data is present comprises at least one display on the hand-held device.

51. In a system as set forth in claim 40, wherein the hand-held device comprises an instrument of approximately credit-card or wallet size.

52. A system as set forth in claim 40, wherein the display comprises any number of LEDs.

53. A system as set forth in claim 40, wherein the display comprises an alphanumeric display visible on a surface of the hand-held device.

54. In a system as set forth in claim 40, wherein the means for providing indicia of the encoded data is present comprises at least one audio transducer of the hand-held device.

55. In a system as set forth in claim 40, the hand-held device further comprising an aiming light which turns on to notify user when video signals are being received by the hand-held device.

56. In a system as set forth in claim 40, the hand-held device further comprising an activation control selectively operable by the user to activate the hand-held device for operation.

57. In a system as set forth in claim 40, the hand-held device further comprising a reset control selectively operable by the user to reset the hand-held device for further

operation.

58. In a system as set forth in claim 57, the reset control being a button which when depressed multiple times rapidly in a few seconds, caused stored information to be purged from the hand-held device.

59. In a system as set forth in claim 57, a data clear or reset control on the hand-held device selectively operable by the user while the display is active for causing data to be cleared from the display or for resetting the hand-held device.

60. A method of video interactive advertising and promotion, comprising

transmitting auxiliary data by television together with normally visible television programming content, where the auxiliary data is associated with a sponsor and carries information of special significance relative to the sponsor and of special value to television viewers,

distributing interactive devices of hand-held character to television viewers for their use, the devices being capable of selectively receiving the auxiliary data,

providing incentive for viewers to use the interactive devices for selectively receiving and decoding the auxiliary data by rewarding the viewers with the information of special value, the interactive devices being capable of retaining indication of having received the information, and

providing redemption of the special value for users at a redemption site where users may present the interactive devices.

61. The method of claim 60, wherein the redemption site is an Internet website.

62. A method of interactive advertising and promotion in connection with a sports event or other special event, comprising

transmitting auxiliary data by television together with normally visible television programming content related to such event, where the auxiliary data is associated with a sponsor and carry information special significance relative to the event, the sponsor and are of special value to viewers,

distributing interactive devices of hand-held character to television viewers of the event for their use, the devices being capable of selectively receiving and decoding the auxiliary data, and

providing incentive for viewers to use the interactive devices for selectively receiving and decoding the auxiliary data by rewarding the viewers with the information of special value, the interactive devices being capable of retaining indication of having received the information, and

using the devices to display for the benefit of users information received by means of the auxiliary data.

63. A method of interactive advertising and promotion in connection with a sporting, racing, or other special event, comprising

transmitting auxiliary data by television together with normally visible television programming content related to such event, where the auxiliary data is associated with a sponsor and carry information special significance relative to at least one of the participants in the event, the sponsor and are of special value to viewers,

distributing interactive devices of hand-held character to television viewers of the event for their use, the devices being capable of selectively receiving the auxiliary data, and

providing incentive for viewers to use the interactive devices for selectively receiving and decoding the auxiliary data by rewarding the viewers with the information of special value, the interactive devices being capable of retaining indication of having received the information, and

using the devices to display for the benefit of the users information received by means of the auxiliary data.

64. A method of using auxiliary data if present with television programming normally viewable by television viewers, where the auxiliary data is transparent to the viewers may accompany the television programming, displaying the television programming on a display device, receiving light signals from the display device by use of a hand-held device where the light signals include auxiliary data if present, by photosensing the light signals at the hand-held device, filtering and amplifying the light signals within the hand-held device, using a discriminator within the hand-held device to determine whether the auxiliary data is present in the amplified light signals, and providing the auxiliary data for further use by the hand-held device.

65. A method of using auxiliary data according to claim 64 wherein the auxiliary data is provided to a microprocessor of the hand-held device and displaying information content of the auxiliary data by means of a display of the hand-held device in response to operation of microprocessor.

66. A method of using auxiliary data according to claim 65 wherein the display is an alphanumeric display, or one or more a light-emitting display devices.

67. A method of using auxiliary data if present with television programming normally viewable by television viewers, where the auxiliary data is transparent to the viewers and may accompany the television programming, receiving modulated video signals from the

display device by use of a decoder device where the video signals include auxiliary data if present, filtering and amplifying the light signals within the decoder device, using a discriminator within the decoder device to determine whether the auxiliary data is present in the amplified light signals, and providing the auxiliary data for further use by the hand-held device.

68. A method for viewing Internet websites, comprising producing video signals encoded with auxiliary data at a user's location by means on display device;

providing the user with such a hand-held device capable of receiving the video signals;

receiving the video signals by means of the hand-held device;

causing the hand-held device to electronically determine whether the video signal contains auxiliary data;

transferring said auxiliary data through a connection from the hand-held device to a computer;

locating an Internet website from the indicia of the auxiliary data.

69. A method for executing programs in cyberspace, comprising producing video signals encoded with auxiliary data at a user's location by means on display device;

providing the user with such a hand-held device capable of receiving the video signals;

receiving the video signals by means of the hand-held device;

causing the hand-held device to electronically determine whether the video signal contains auxiliary data;

transferring said encoded data through a connection from the hand-held device to a computer;

executing the program code on a computer or computer-like device with Internet access from the indicia provided by the encoded data.

70. A method for verifying watching both a television program and reviewing its related website, comprising producing video signals encoded with auxiliary data at a user's location by means on display device;

providing the user with such a hand-held device capable of receiving the video signals;

receiving the video signals by means of the hand-held device;

causing the hand-held device to electronically determine whether the video signal contains auxiliary data;

transferring said auxiliary data through a connection from the hand-held device to a computer;

locating an Internet website via the indicia provided by the encoded data,

transferring a special value from the website of the computer through a connection to the hand-held device;

providing redemption of the special value when brought to a point of purchase location.

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